

# **DRAFT INTERAGENCY ECOLOGICAL PROGRAM 2012 ANNUAL WORKSHOP**

**APRIL 18 – 20, 2012  
LAKE NATOMA INN  
FOLSOM, CA**



**Interagency  
Ecological Program**

**COOPERATIVE ECOLOGICAL  
INVESTIGATIONS SINCE 1970**

## WORKSHOP AT A GLANCE

All oral presentations will be in the Sierra Ballroom or Sutter Room, and the poster sessions will be held in the pavilion. Lunch will not be provided.

### WEDNESDAY, APRIL 18

8:00 – 10:00	IEP Registration and Poster Set-up
10:00 – 10:40	Joint CWEMF and IEP Introduction and Updates
10:40 – 12:30	Session I – Smelt Life Cycle Models
12:30 – 1:40	Lunch
1:40 – 2:40	Session II – Applied Hydrodynamic Modeling and Forecast Tools
2:40 – 3:20	The Delta Science Program Welcomes New Lead Scientist, Peter Goodwin
3:30 – 6:00	Joint CWEMF and IEP Poster Session

### THURSDAY, APRIL 19

8:30 – 10:10	Session III – What's New in the Salmon World?
10:10 – 10:30	Break
10:30 – 11:50	Session III (continued) – What's New in the Salmon World?
11:50 – 1:10	Lunch
1:10 – 2:50	Session III (continued) – What's New in the Salmon World?
2:50 – 3:10	Break
3:10 – 3:30	Poster Speed Introductions
3:30 – 4:50	Session IVa - Due North: Cache Slough Complex, Liberty Island and the Deep Water Shipping Channel Session IVb - Water Quality Effects, From Producers to Consumers
5:00 – 7:00	IEP Poster Reception

### FRIDAY, APRIL 20

8:30 – 10:10	Session Va – Under the Microscope and Lower Trophic Critters Session Vb – Marking, Counting and Detecting Fish: The Latest and Greatest from Suisun to the North Delta
10:10 – 10:30	Break
10:30 – 12:00	Session VI – Fall Low Salinity Habitat (FLaSH) Studies: Making Sense of Physical and Biological Conditions in 2011
12:00 – 1:20	Lunch
1:20 – 2:40	Session VI (continued) - Fall Low Salinity Habitat (FLaSH) Studies: Making Sense of Physical and Biological Conditions in 2011
2:40 – 3:00	Break
3:00 – 4:00	Session VI (continued) - Fall Low Salinity Habitat (FLaSH) Studies: Making Sense of Physical and Biological Conditions in 2011

## GENERAL INFORMATION

**Overview:** The Interagency Ecological Program (IEP) for the San Francisco Estuary / Sacramento-San Joaquin Delta consists of nine member agencies, three State (Department of Water Resources, Department of Fish and Game, and State Water Resources Control Board) and six Federal (Fish and Wildlife Service, Bureau of Reclamation, Geological Survey, Army Corps of Engineers, NOAA Fisheries, and Environmental Protection Agency). The IEP also partners with the San Francisco Estuary Institute, the Delta Science Program, and many academic and private scientists. The mission of the IEP is, in collaboration with others, to provide ecological information and scientific leadership for use in management of the San Francisco Estuary. More information about the IEP can be found at <http://www.water.ca.gov/iep/>.

The annual IEP Workshop serves as a focal point for IEP activities. The program for this year's Workshop is diverse, with many oral and poster presentations offering a full spectrum of current IEP activities. After a three-year transition period to a new location, the Lake Natoma Inn in Folsom, CA, this year's Workshop once again features a full three-day program and close coordination with the California Water and Environmental Modeling Forum (CWEMF, <http://cwemf.org/>). The CWEMF annual meeting is taking place April 16-18 at the Lake Natoma Inn. IEP and CWEMF are holding joint oral sessions on Wednesday, April 18. For the first time, IEP and CWEMF are also holding a joint poster session and reception in the afternoon of April 18. The joint oral and poster sessions on April 18 are open to all registered IEP and all registered CWEMF meeting participants.

**Interim Chair, IEP Agency Coordinators:** Bruce Herbold (US EPA)

**IEP Lead Scientist:** Anke Mueller-Solger (DSC)

**IEP Program Manager:** Kelly Souza (DFG)

**2012 IEP Workshop Program Committee:** Lenny Grimaldo (chair; Reclamation), Josh Israel, (Reclamation), Lori Smith (FWS), Pat Brandes (FWS), Li-Ming He (NMFS), Alex Parker (SFSU), Brett Harvey (DWR), Bill Templin (DWR), Stephanie Fong (CVRWQCB), Christine Joab (CVRWQCB), B.J. Miller (San Luis and Delta Mendota Water Agency), Anke Mueller-Solger (DSC), and Kelly Souza (DFG).

# WEDNESDAY, APRIL 18

## JOINT CWEMF AND IEP INTRODUCTION AND UPDATES

Moderator: Rich Breuer (DWR)

Location: Sierra Ballroom

10:00-10:10	CWEMF: Highlights 2011 to 2012	Marianne, Guerin, RMA
10:10-10:20	IEP Program Highlights	Kelly Souza, DFG
10:20-10:40	IEP Science Highlights	Anke Mueller-Solger, DSC

## SESSION I – SMELT LIFE CYCLE MODELS

Moderator: Lenny Grimaldo (Reclamation)

Location: Sierra Ballroom

10:40-10:50	Understanding Life Cycle Models and their Applications	Wim Kimmerer, SFSU (RTC)
10:50-11:10	Individual-Based Population Dynamics Model of Delta Smelt: Comparing the Effects of Food Versus Entrainment	Kenny Rose, LSU
11:10-11:30	<i>A State-space Multistage Life Cycle Model to Evaluate Population Impacts in the Presence of Density Dependence: Illustrated with Application to Delta Smelt</i>	Richard Deriso, Tuna Commission
11:30-11:50	A Hierarchical Spatio-Temporal Model for Delta Smelt	Ken Newman, FWS
11:50-12:10	Statistical Modeling of Unnatural Selection, and the Dialectics of Causation in the Decline of Delta Smelt	William Bennett, UCD
12:10-12:30	Development and Application of an Individual Based Model for Longfin Smelt in the San Francisco Estuary	Erik Lobochevsky, UCD

**12:30 – 1:40**

**Lunch**

Location: Area restaurants

## SESSION II– APPLIED HYDRODYNAMIC MODELING AND FORECAST TOOLS

Moderator: Ben Bray (EBMUD)

Location: Sierra Ballroom

1:40-2:00	Investigating the Effect of Tidal Migration Behavior on Zooplankton Retention	Ed Gross, RMA
2:00-2:20	Forecasting Turbidity in the Sacramento-San Joaquin Delta	John DeGeorge, RMA
2:20-2:40	Climate Change Information for Ecological Modeling	Jamie Anderson, DWR

**2:40 – 3:20 THE DELTA SCIENCE PROGRAM WELCOMES NEW LEAD SCIENTIST, PETER GOODWIN (DSP)**

INTRODUCTION BY: ANKE MUELLER-SOLGER (DSC)

ACCELERATING KNOWLEDGE DISCOVERY THROUGH SCIENCE COMMUNITIES AND EMERGING TECHNOLOGIES

**3:30 – 6:00**

**Joint CWEMF and IEP Poster Session**

Location: Pavilion

# THURSDAY, APRIL 19

## SESSION III – WHAT’S NEW IN THE SALMON WORLD?

Moderator: Jeff McLain (NMFS)

Location: Sierra Ballroom

8:30-8:50	Salmon and IEP: Finding Holistic Approaches for Monitoring, Modeling and Management	Josh Israel, Reclamation
8:50-9:10	From Sabertooth Salmon to Conservation Hatcheries: Managing for Resilient Salmon Population in California’s Altered Riverscapes	Rachel Johnson, Reclamation
9:10-9:30	An Integrated System for Storing, Analyzing and Reporting Juvenile Chinook Salmon Data Collected with Rotary Screw Traps	Doug Threlhoff, FWS
9:30-9:50	Migration Patterns of Juvenile Winter-Run Size Chinook Salmon ( <i>Oncorhynchus tshawytscha</i> ) through the Sacramento-San Joaquin Delta	Yvette Redler, NMFS
9:50-10:10	Estimates of Hatchery Contribution to California’s Central Valley Chinook Results of 2010 Constant Fractional Marking Program Recovery Data	Brett Kormos, DFG

### 10:10 – 10:30 Break

## SESSION III – WHAT’S NEW IN THE SALMON WORLD? (CONTINUED)

Moderator: Ramon Martin (FWS)

Location: Sierra Ballroom

10:30-10:50	Juvenile Salmon Survival Studies in the North Delta	Russ Perry, USGS
10:50-11:10	<i>Understanding Juvenile Salmon Movements and Survival in the North Delta</i>	Jon Burau, USGS
11:10-11:30	South Delta Salmon Survival Studies	Pat Brandes, FWS
11:30-11:50	Acoustic Telemetry Evaluations of Non-Physical Fish Barriers and Fish Protection Facilities in the Central Valley of California	Mark Bowen, Reclamation

### 11:50 – 1:10 Lunch Location: Area restaurants

## SESSION III – WHAT’S NEW IN THE SALMON WORLD? (CONTINUED)

Moderator: Josh Israel (Reclamation)

Location: Sierra Ballroom

1:10-1:30	A Juvenile Salmonid Perspective on Delta Hydrodynamics: The Relative Influence of River Inflows, Tides and South Delta Exports	Brad Cavallo, Cramer Fish Sciences
1:30-1:50	Predator Densities and Associated Salmonid Smolt Mortality Around Water Diversions	Cyril Michel, NMFS
1:50-2:10	Who’s Your Daddy? Validating Length-Date Run Assignments with Genetics for Central Valley Chinook	Brett Harvey, DWR

2:10-2:30	A Review of the IEP Delta Juvenile Fishes Monitoring Program and the Stockton FWS Salmon Survival Studies	Joe Kirsch (FWS)
2:30 – 2:50	Monitoring, Modeling and Management: How Can We Put it All together to Support Salmonid conservation in the Central Valley?	Steve Lindley, NMFS

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**2:50 – 3:10                      Break**

**3:10 – 3:30                      Poster Speed Introductions**  
Moderator: Steve Culberson (FWS)  
Location: Sierra Ballroom

**CONCURRENT SESSION IVA – DUE NORTH: CACHE SLOUGH COMPLEX, LIBERTY ISLAND AND THE DEEP WATER SHIPPING CHANNEL**

Moderator: Ted Sommer (DWR)  
Location: Sierra Ballroom

3:30-3:50	Cache Slough Turbidity, Sediment and Salinity Trends in 2011	Tara Morgan-King, USGS
3:50-4:10	CDFG's Monitoring of the Sacramento Deep Water Shipping Channel: Pelagic Fishes, Zooplankton and Their Shared Habitat	Julio Abid-Samii, DFG
4:10-4:30	Dredging Impacts to Delta Smelt and Other Fish species in the Sacramento Deep Water Shipping Channel	Jordan Gold, Mari-gold Environmental Consulting
4:30-4:50	Larval and Juvenile Fishes of Liberty Island	Lori Smith, FWS

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**CONCURRENT SESSION IVB – WATER QUALITY EFFECTS, FROM PRODUCERS TO CONSUMERS**

Moderator: Stephanie Fong, CVRWQCB  
Location: Sutter Room

3:30-3:50	Determining Environmental Controls and Ecological Impacts of CyanoHABs in the San Joaquin-Sacramento Delta – A Multidisciplinary Approach	Raphe Kudela, UCSC
3:50-4:10	Transcriptomics and Delta Monitoring: Accomplishments, Difficulties and Future Prospects	Richard Connon, UCD
4:10-4:30	Contaminant Sources and Toxicity in the Cache Slough Region	Don Weston, UCB
4:30-4:50	Detection and Potential Effects of Pharmaceuticals and Personal Care Products in the Sacramento River	Erika Holland, UCD

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**5:00 – 7:00                      IEP Poster Reception**  
Location: Pavilion

## FRIDAY, APRIL 20

### CONCURRENT SESSION VA – UNDER THE MICROSCOPE AND LOWER TROPHIC CRITTERS

Moderator: Alex Parker (SFSU)

Location: Sutter Room

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8:30-8:50	The Effect of Ambient Irradiance on Phytoplankton Nutrient Uptake in San Francisco Estuary	Dick Dugdale, SFSU (RTC)
8:50-9:10	Assessing Phytoplankton Communities in the Sacramento and San Joaquin Rivers Using Microscopic and Indirect Analytical Approaches	Erika Kress, SFSU (RTC)
9:10-9:30	The Influence of Seasonal Salinity and Temperature Variation on the Energetics of <i>Corbula amurensis</i>	Nate Miller, SFSU (RTC)
9:30-9:50	Abundance, Distribution and Clearance Rates of the Brackish-Water Hydromedusa <i>Blackfordia virginica</i>	Jessica Donald, SFSU (RTC)
9:50-10:10	Introduction of the Siberian Prawn, <i>Exopalaemon modestus</i> , into the San Francisco Estuary: Ten Years Later	Tiffany Brown, DWR

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### CONCURRENT SESSION VB – MARKING, COUNTING AND DETECTING FISH: THE LATEST AND GREATEST FROM SUISUN TO THE NORTH DELTA

Moderator: Louise Conrad (DWR)

Location: Sierra Ballroom

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8:30-8:50	California Striped Bass: A Species Contested for the Prey it Ingested	Jason DuBois, DFG
8:50-9:10	SmeltCam III: Making Science Fiction a Reality with Fish Species Recognition Technology	Don Portz, Reclamation
9:10-9:30	Genetic Detection of Predation on Larval Delta Smelt in the North Delta	Brian Schreier, DWR
9:30-9:50	Pilot Study to Evaluate Individual Identification of Delta Smelt and Longfin Smelt by Means of Natural Marks	Gonzalo Castillo, FWS
9:50-10:10	Laboratory Design and Testing of an Electrical Crowder for Predator Reduction at the Tracy Fish Collection Facility	Mike Horn, Reclamation

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**10:10 – 10:30      Break**

### SESSION VI – FALL LOW SALINITY HABITAT (FLASH) STUDIES: MAKING SENSE OF PHYSICAL AND BIOLOGICAL CONDITIONS IN 2011

Moderator: Erwin van Nieuwenhuyse, Reclamation

Location: Sierra Ballroom

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10:30-10:40	Introduction to the Fall Low Salinity Habitat Studies of the San Francisco Estuary	Sue Fry, Reclamation
10:40-11:00	Did Crowding Stunt My Growth? Pelagic Fish Distribution and Growth Patterns	Dave Contreras, DFG
11:00-11:20	FLaSHy Fish Food: Just Add Water!	April Hennessey, DFG

11:20-11:40	What's New on the Menu? Regional Feeding Patterns of Delta Smelt in a Wet Year	Steve Slater, DFG
11:40-12:00	Fish Grow When Water Flows	Jim Hobbs, UCD

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**12:00 – 1:20**

**Lunch**

Location: Area restaurants

**SESSION VI – FALL LOW SALINITY HABITAT (FLASH) STUDIES: MAKING SENSE OF PHYSICAL AND BIOLOGICAL CONDITIONS IN 2011 (CONTINUED)**

Moderator: Larry Brown (USGS)

Location: Sierra Ballroom

1:20-1:40	FLaSH Sampling: Contrasts in Health Indices, Growth and Reproductive Status of Delta Smelt Rearing in the Low Salinity Zone and Cache Slough Regions	Shawn Acuna, UCD
1:40-2:00	Big Surprises Come in Small Packages: 2011 Phytoplankton Monitoring Results	Anke Mueller-Solger, DSC/IEP
2:00-2:20	Nutrient and Phytoplankton Distributions During the Fall Low Salinity Habitat (FLaSH) Study in Suisun Bay	Frances Wilkerson, SFSU (RTC)
2:20-2:40	Water and Particle Properties as Measures of Habitat Quality	Brian Bergamaschi, USGS

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**2:40 – 3:00**

**Break**

**SESSION VI – FALL LOW SALINITY HABITAT (FLASH) STUDIES: MAKING SENSE OF PHYSICAL AND BIOLOGICAL CONDITIONS IN 2011 (CONTINUED)**

Moderator: Anke Mueller-Solger, DSC

Location: Sierra Ballroom

3:00-3:20	Going With the Flow: The Distribution, Biomass and Grazing Rate of <i>Corbula</i> and <i>Corbicula</i> with Varying Freshwater Flow (May and October 2009-2011)	Jan Thompson, USGS
3:20-3:40	Comparison of Seston Composition and Sources in the delta During Two High-Flow Falls (2006 and 2011)	Carol Kendall, USGS
3:40-4:00	Status of the Synthesis of Studies in Fall Low Salinity Habitat of the San Francisco Estuary	Larry Brown, USGS

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